10-3930-225-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL
TRUCK, LIFT, FORK, GASOLINE, PNEUMATIC-TIRED WHEELS 15,000-POUND CAPACITY (CLARK MODEL CY 150 B, ARMY MODEL MHE 175) FEDERAL STOCK NUMBER 3930-621-7413

Headquarters, Department of the Army, Washington 25, D.C.,
22 October 1962

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This copy is a reprint which includes current pages from Change 4.

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CHANGE
No. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *15 April 1974*

Operator's Manual
TRUCK, LIFT, FORK; GASOLINE; PNEUMATIC-TIRED WHEELS; 15,000-POUND CAPACITY (CLARK MODEL CY150B, ARMY MODEL MHE-175) FSN 3930-621-7413

TM 10-3930-225-10, 22 October 1962, is changed as follows:

Page 2. Appendix II title is changed to read: "Basic Issue Items List and Items Troop Installed or Authorized List".
Add the following warning:

WARNING

Operation of this equipment presents a noise hazard to personnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Wear ear muffs or ear plugs which were fitted by a trained professional.

Page 3. Paragraph 2 is rescinded.

Page 5. Paragraph 4 is superseded as follows:

4. Recommendation for Maintenance Publications Improvements

You can help to improve this manual by calling attention to errors and by recommending improvements. Your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) should be mailed direct to: Commander, US Army Troop Support Command, ATTN: AMSTS-MPP, 4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished direct to you.

Page 16. Immediately after Section III title, add the following warning:

WARNING

Operation of this equipment presents a noise hazard to personnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Wear ear muffs or ear plugs which were fitted by a trained professional.

Page 27. Appendix I, References, add the following:
"TB MED 251, Noise and Conservation of Hearing".

Page 29. Appendix II is superseded as follows:

APPENDIX II
BASIC ISSUE ITEMS LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED LIST

Section I. INTRODUCTION

1. Scope

This appendix lists items required by the operator for operation of the fork lift truck.

2. General

This list is divided into the following sections:

a. Basic Issue Items List – Section II. Not applicable.

b. Items Troop Installed or Authorized List – Section III. A list of items in alphabetical sequence, which at the discretion of the unit commander may accompany the fork lift truck.

*This change supersedes C 3, 21 March 1973.

These items are NOT subject to turn-in with the fork lift truck when evacuated.

3. Explanation of Columns

The following provides an explanation of columns in the tabular list of Basic Issue Items List, Section II, and Items Troop Installed or Authorized, Section III.

a. Source, Maintenance and Recoverability Code(s) (SMR). Not applicable.

b. Federal Stock Number. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description. This column indicates the Federal item name and any additional description of the item required.

d. Unit of Measure (U/M). A two character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Furnished with Equipment (BIIL). Not applicable.

f. Quantity Authorized (Items Troop Installed or Authorized). This column indicates the quantity of the item authorized to be used with the equipment.

Section III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

Federal stock number	Description	U/M	Qty auth
7520-559-9618	CASE, MAINTENANCE AND OPERATION MANUAL	EA	1
4210-889-2221	EXTINGUISHER, FIRE	EA	1

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:
VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-25A (qty rqr block No. 893) Operator's Maintenance requirements for Warehouse Equipment.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. This manual is for the use of personnel responsible for the operation and first-echelon maintenance of the Truck, Lift, Fork, Gasoline, Pneumatic-Tired Wheels, 15,000-Pound Capacity, Clark Model CY 150 B, Army Model MHE 175, Federal Stock Number 3930–621–7413, procured under Contract Number N600 (MIS)56489.

b. It provides the operator with the necessary instructions to operate the truck and to perform his required maintenance services. These maintenance services have been assigned to the operator within the limits of the maintenance allocation chart (TM 10–3930–225–20).

2. Appendixes

Appendix I is a list of current references, and appendix II is the basic issue item list.

3. Forms, Records, and Reports

The forms, records, and reports applicable to the operation and first-echelon maintenance of this truck are listed and described in TM 38–750.

4. Recommended Changes

Users of this manual are encouraged to submit recommended changes or comments to improve the manual. Comments will be submitted on DA Form 2028 and will be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded direct to Commanding General, Quartermaster Center, U.S. Army, Fort Lee, Virginia.

5. Orientation

Throughout this manual, the use of the terms *right, left, front,* and *rear* indicates directions from the viewpoint of the operator sitting in the seat of the truck.

Section II. DESCRIPTION AND DATA

6. Description

Army Model MHE 175 (Clark Model CY 150 B) is a nontactical forklift truck designed for out-of-doors operation and for use either as a forklift truck or as a towing vehicle. This truck (figs. 1 through 5) can be used to load, transport, unload, and stack loads weighing as much as 15,000 pounds at a load center of 24 inches. (The load center is measured from the heel of the forks.) The truck can lift the load to a height of 210 inches. Army Model MHE 175 is powered by a six cylinder, in-line, four-stroke cycle, L-head, liquid cooled, gasoline engine. This truck is equipped with power brakes, power steering, and an automatic transmission. The operator can select four speeds in either forward or reverse. The truck

has a sliding engine hood which provides easy access to the engine compartment, and it has a manually operated crank which adjusts the distance between the forks.

7. Tabulated Data

a. Capacities.

Cooling system	19 qt.
Crankcase (with filter)	8 qt.
Differential	7 qt.
Fuel tank	45 gal.
Hydraulic system:	
Lines	4 gal.
Tank	45 gal.
Oil filter	1 qt.
Transmission (with torque converter).	28 qt.
Wheel hubs (planetary)	4 qt. each

b. Dimensions and Weight.

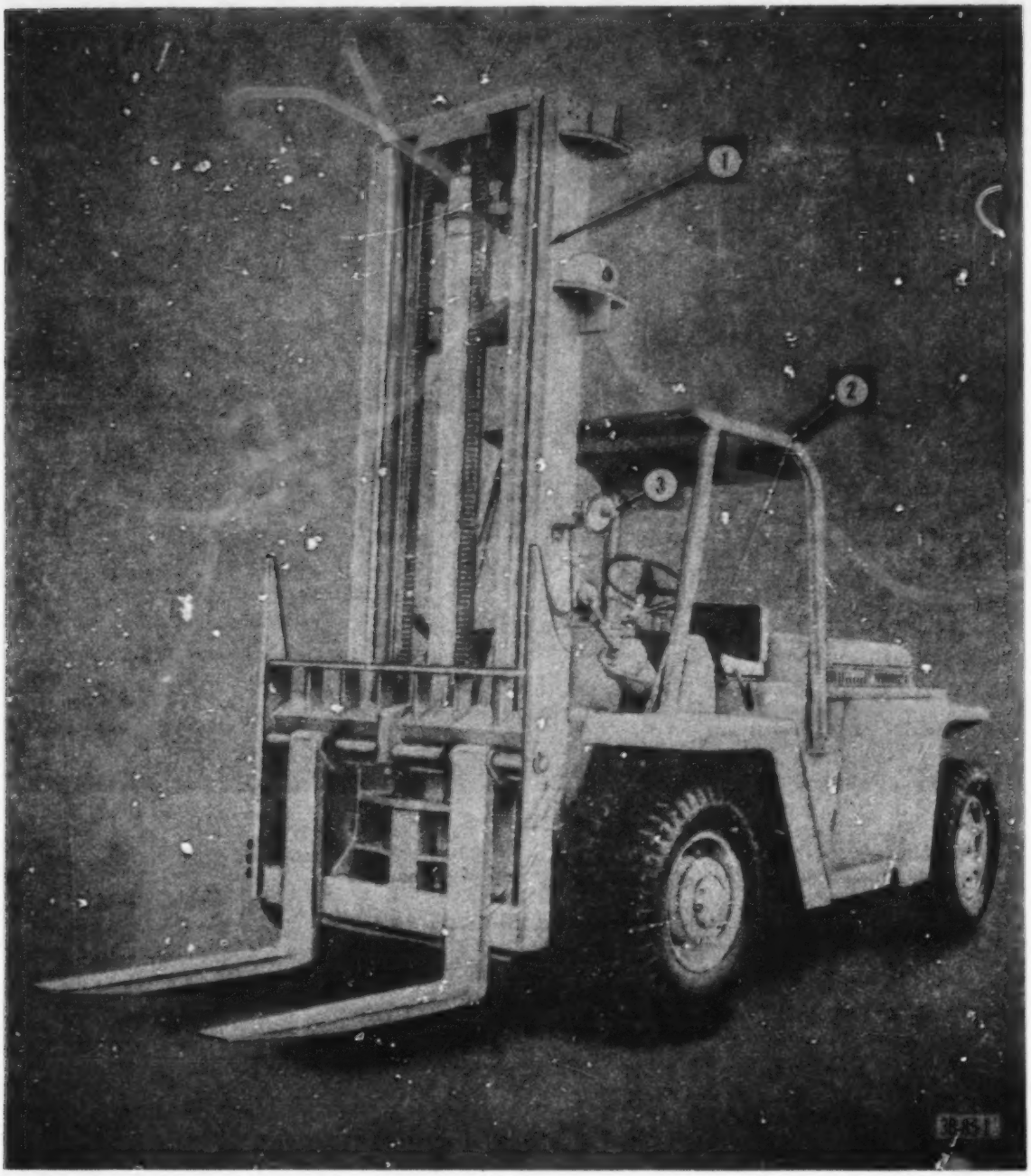
Ground clearance (at base of mast).	7 in.
Height:	
With uprights extended.	278 in.
With uprights retracted.	151 3/8 in.
Length:	
Forks	48 in.
Fork spread (maximum).	58 in.
Overall truck	18 ft. 1 1/2 in.
Weight	22,514 lb.

c. Performance.

Aisle width (minimum):	
Intersecting	21 ft.
Right angle stacking	21 ft. 4 in.
Lift height (maximum)	210 in.
Load capacity (maximum)	15,000 lb.
Maximum speed (loaded):	
Forward	15 m.p.h.
Reverse	15 m.p.h.
Number of speeds:	
Forward	4
Reverse	4
Tilt limitation:	
Backward	9 3/4°
Forward	3°
Turning radius:	
Inside	6 ft. 2 1/2 in.
Outside	14 ft. 5 1/2 in.

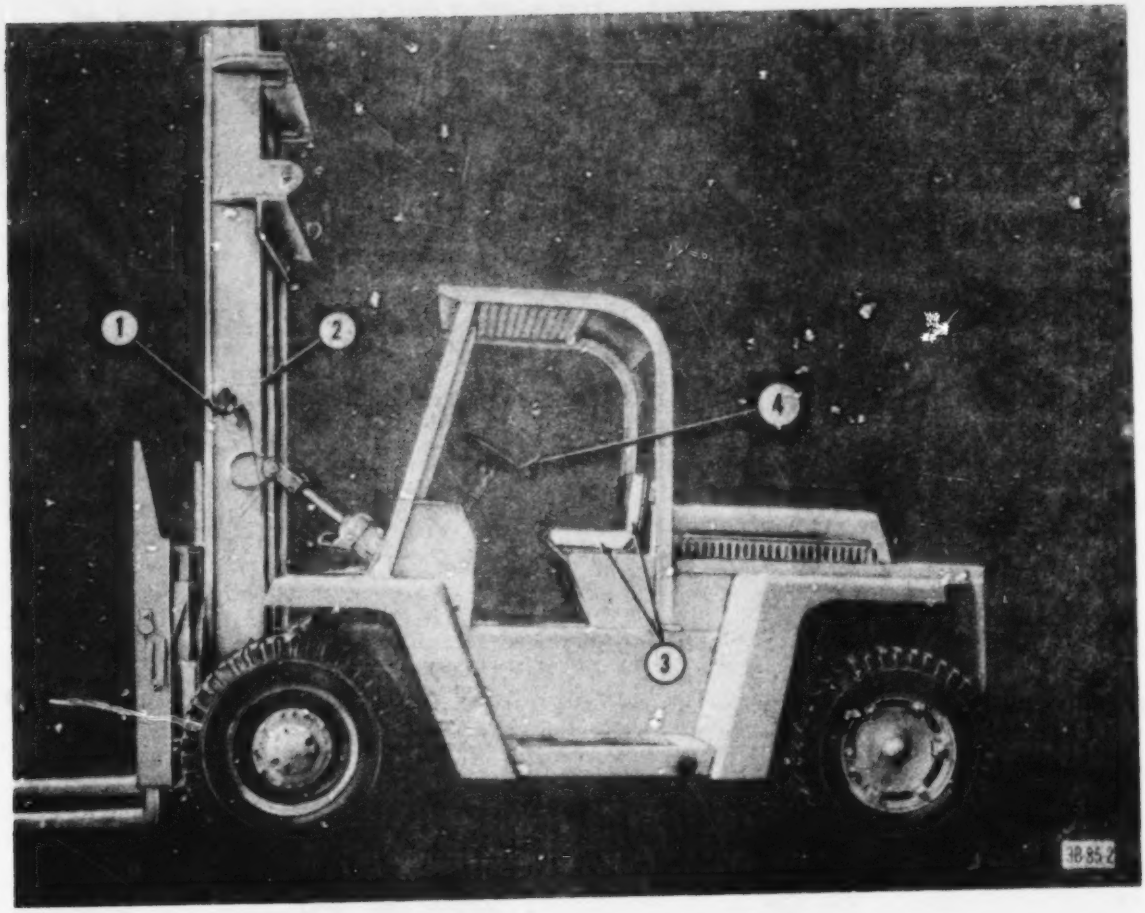
d. Tires.

Number	6
Pressure	90 p.s.i. each
Size	8.25–20, 12–ply rating



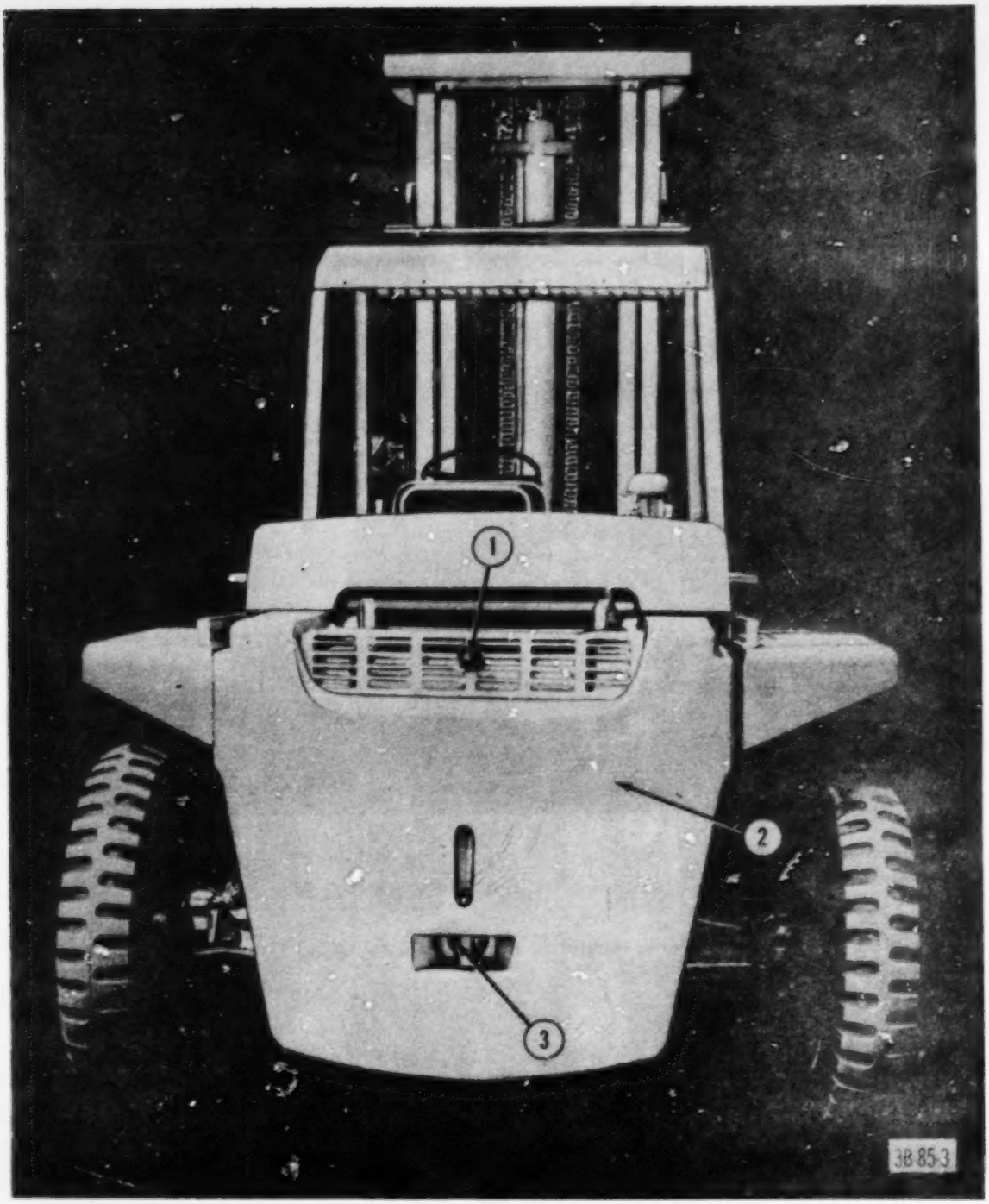
1 Uprights
2 Guard, overhead
3 Headlight

Figure 1. Army model MHE 175, three-quarter view.



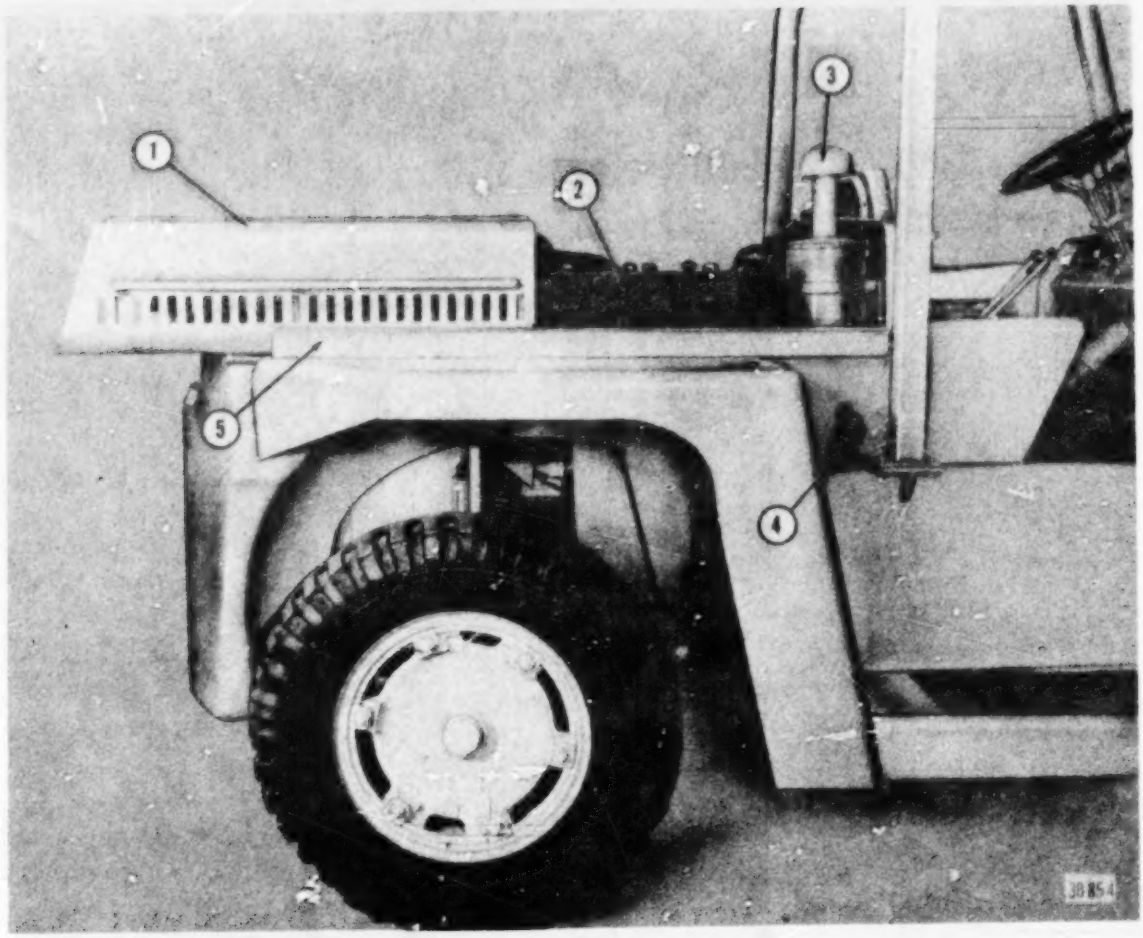
1 Headlight
2 Knob, adjustable bracket, headlight
3 Cushion and backrest, seat
4 Wheel, steering

Figure 2. Army model MHE 175, left side view.



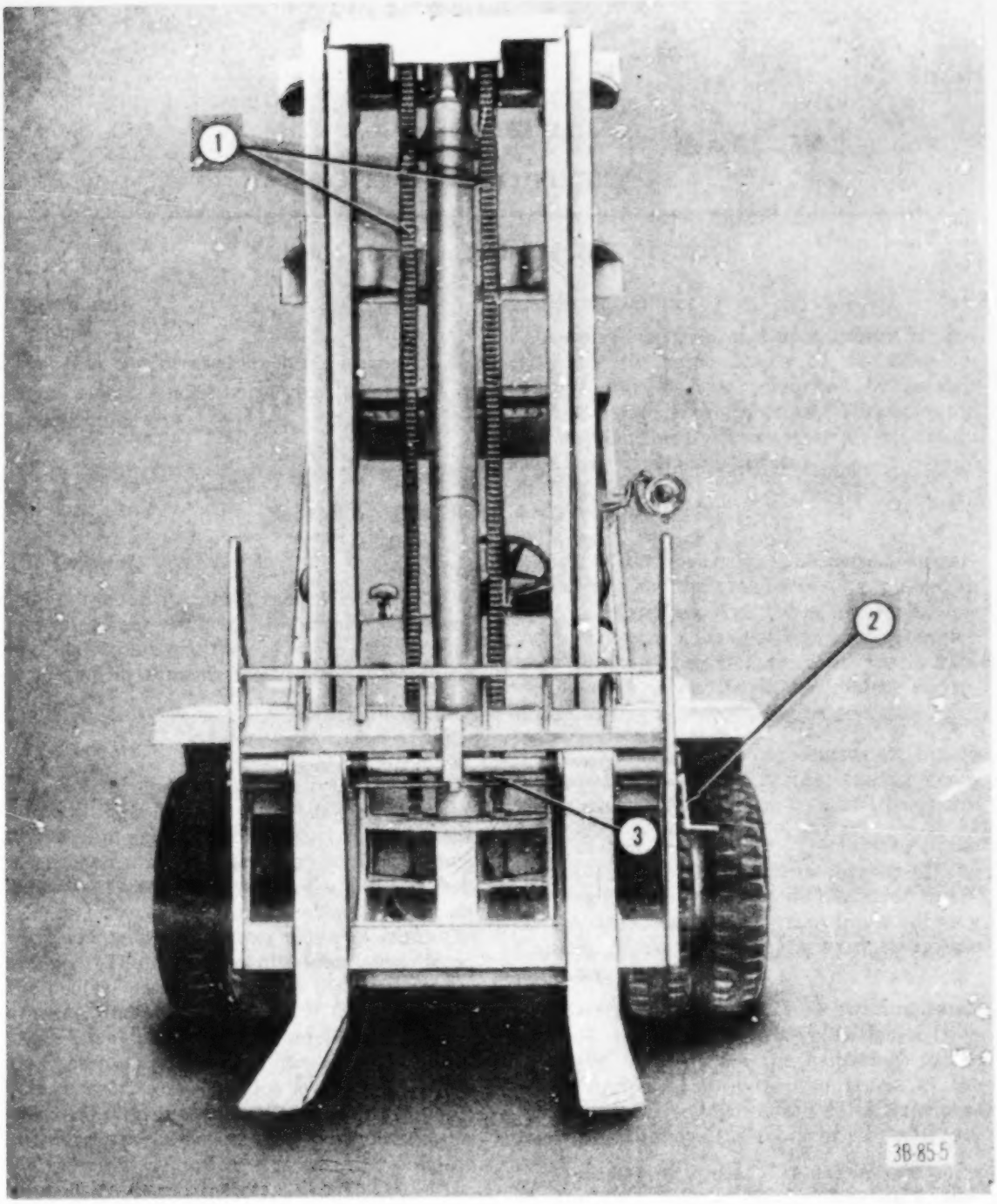
1 Stoplight-taillight 2 Counterweight 3 Pin, coupler

Figure 3. Army model MHE 175, rear view.



1 Hood
2 Battery (12-volt)
3 Cleaner, air, engine
4 Cap, fuel tank
5 Track, hood

Figure 4. Army model MHE 175, showing sliding engine hood.



1 Chains, lift 2 Crank, fork locating 3 Screw, fork locating

Figure 5. Army model MHE 175, front view.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF TRUCK

8. General

When a new or used truck is received by an organization, it must be serviced to prepare it for operation.

9. Responsibilities

The services performed upon receipt of the truck are the responsibility of the using organization and will be performed by second-echelon maintenance personnel. The operator will assist in these services when directed to do so by the commanding officer.

Section II. CONTROLS AND INSTRUMENTS

10. General

This section furnishes the operator with illustrations and sufficient information concerning the location and the use of the various controls and instruments to properly operate the truck.

11. Controls

a. Starter and Ignition Switch. The starter and ignition switch (4, fig. 6) is located on the instrument panel, to the upper right of the steering column. This is a four-position switch. Turn the switch clockwise to the START position to activate the starter solenoid which in turn will cause the starter motor to crank the engine. (The direction shift lever must be in the neutral position.) Release the switch after starting and it will return to the IGN position. Turn the switch counterclockwise to the OFF position to shut off the supply of electric current to the ignition system and to the electrically operated gages. Turn the switch counterclockwise to the ACC position to actuate the electrical system for checking only the electrically operated gages.

b. Choke Control. The choke control (8, fig. 6) is located on the instrument panel, to the left of the fuel gage. The normal operating position for the choke control is pushed in as far as it will go. Pull out on the choke control to close the choke valve in the carburetor when starting a cold engine. As the engine warms, push in on the choke control as required to insure smooth engine operation.

c. Horn Button. The horn button (2, fig. 6) is located in the center of the steering handwheel. Depress the button to sound the horn.

d. Parking Brake Lever. The parking brake lever (4, fig. 7) is located to the left of the operator's seat. Pull back on the lever to apply the brake and hold the truck in a stationary position. Move the lever forward to release the brake.

e. Steering Handwheel. The steering handwheel (1, fig. 6) controls the direction of travel of the truck. Turn the handwheel to the right (clockwise) to move the truck to the right; turn the handwheel to the left (counterclockwise) to move the truck to the left.

f. Accelerator Pedal. The accelerator pedal (5, fig. 6) is located on the floorboard, convenient to the operator's right foot. Depress the pedal to increase the engine speed; release

the pressure on the pedal to decrease the engine speed.

g. Light Switch. The light switch (9, fig. 6) is located on the instrument panel, to the left of the steering handwheel and just above the choke control. Pull out on the light switch to turn on the headlight (3, fig. 1) and the taillight (1, fig. 3). Push in on the light switch to turn off the headlight and taillight.

h. Headlight Adjustable Bracket Knob. An adjustable bracket knob (2, fig. 2) is attached to the headlight assembly (3, fig. 1). Move the knob up, down, to the right, or to the left to beam the headlight in each of those directions.

i. Lift Control Lever. The lift control lever (3, fig. 7) is located to the right of the operator's seat. Move the lever to the rear to lift the forks. Move the lever forward to lower the forks.

j. Tilt Control Lever. The tilt control lever (2, fig. 7) is located to the right of the operator's seat, approximately 3 inches to the right of the lift control lever. Move the tilt control lever forward to tilt the forks forward. Move the lever backward to tilt the forks backward.

k. Range Shift Lever. The range shift lever (3, fig. 6) is located to the right of the steering column, directly under the steering handwheel. Move the lever forward to the H (high) position for normal driving on hard surfaces. Shift the lever back to the L (low) position when the terrain or the load conditions require it. Leave the range shift lever in the N (neutral) position when the truck is parked.

***Caution:* Do not shift the range shift lever while the truck is in motion. The transmission might be damaged if the range shift lever is shifted while the truck is in motion.**

l. Speed Shift Lever. The speed shift lever (11, fig. 6) is located to the left of the steering column, under the steering handwheel. (The speed shift lever is the longer of the two levers located on this side of the handwheel.) Move the speed shift lever forward to the 2 position to operate at a higher speed. Move the lever back to the 1 position to operate at a lower speed. Place the lever in the N (neutral position when the truck is parked.

m. Direction Shift Lever. The direction shift lever (10, fig. 6) is located to the left of the steering column, above the speed shift lever. (The direction shift lever is the shorter of the two levers located on this side of the handwheel.) Move the direction shift lever forward to the F (forward) position to allow the truck to move forward. Move the lever back to the R (reverse) position to allow the truck to move in reverse. Leave the lever in the N (neutral) position when the truck is parked.

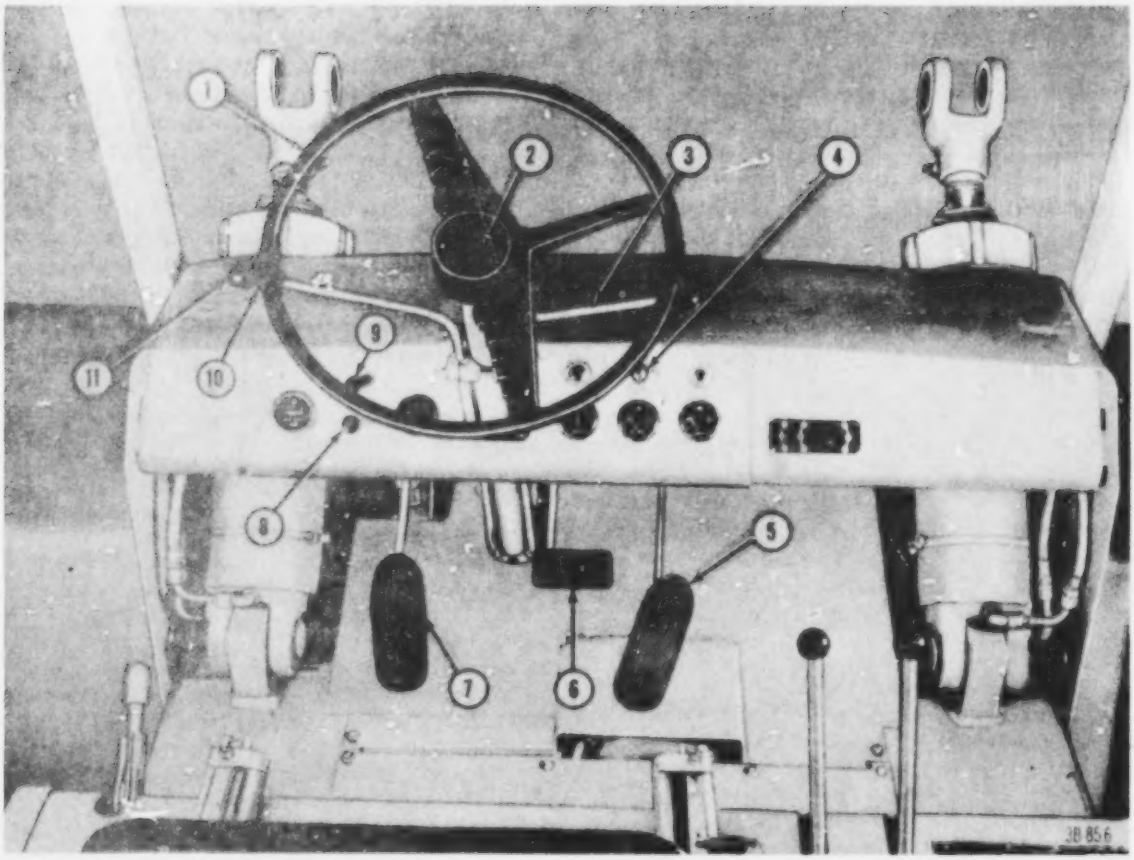
Note. The direction shift lever must be in the N (neutral) position in order to start the engine. The lever must not be shifted while the truck is in motion.

n. Brake Pedal. The brake pedal (6, fig. 6) is located to the right of the steering column. Depress the brake pedal to stop the travel of the truck during operation. When the brake pedal is depressed, the stoplight (1, fig. 3) will glow.

o. Inching Control Pedal. The inching control pedal (7, fig. 6), located to the left of the steering column, allows smooth maneuvering of the truck when high engine speeds are necessary to perform lifting or tilting operations. Depress the inching control pedal to actuate the control valve, thus reducing the hydraulic pressure against the engaged clutch. This slows the transmission gear speed without affecting the engine speed and provides delicate control of the truck for traveling or inching. Further depression of the inching pedal will reduce pressure on the clutch plates to the extent that the gear rotation will be completely stopped.

p. Seat Adjuster Assembly. An adjuster assembly (5, fig. 7) is located slightly to the rear on the right side of the operator's seat. Move the adjuster lever toward the rear of the seat, move the seat forward or backward as desired, and release the adjuster lever.

q. Fork Locating Crank. The fork locating crank (2, fig. 5) is located on the left side of the fork carriage. Turn the crank clockwise to move the forks further apart. Turn the crank counterclockwise to move the forks closer together.



1 Handwheel, steering
2 Button, horn
3 Lever, shift, range
4 Switch, starter and ignition
5 Pedal, accelerator
6 Pedal, brake
7 Pedal, inching control
8 Control, choke
9 Switch, light
10 Lever, shift, direction
11 Lever, shift, speed

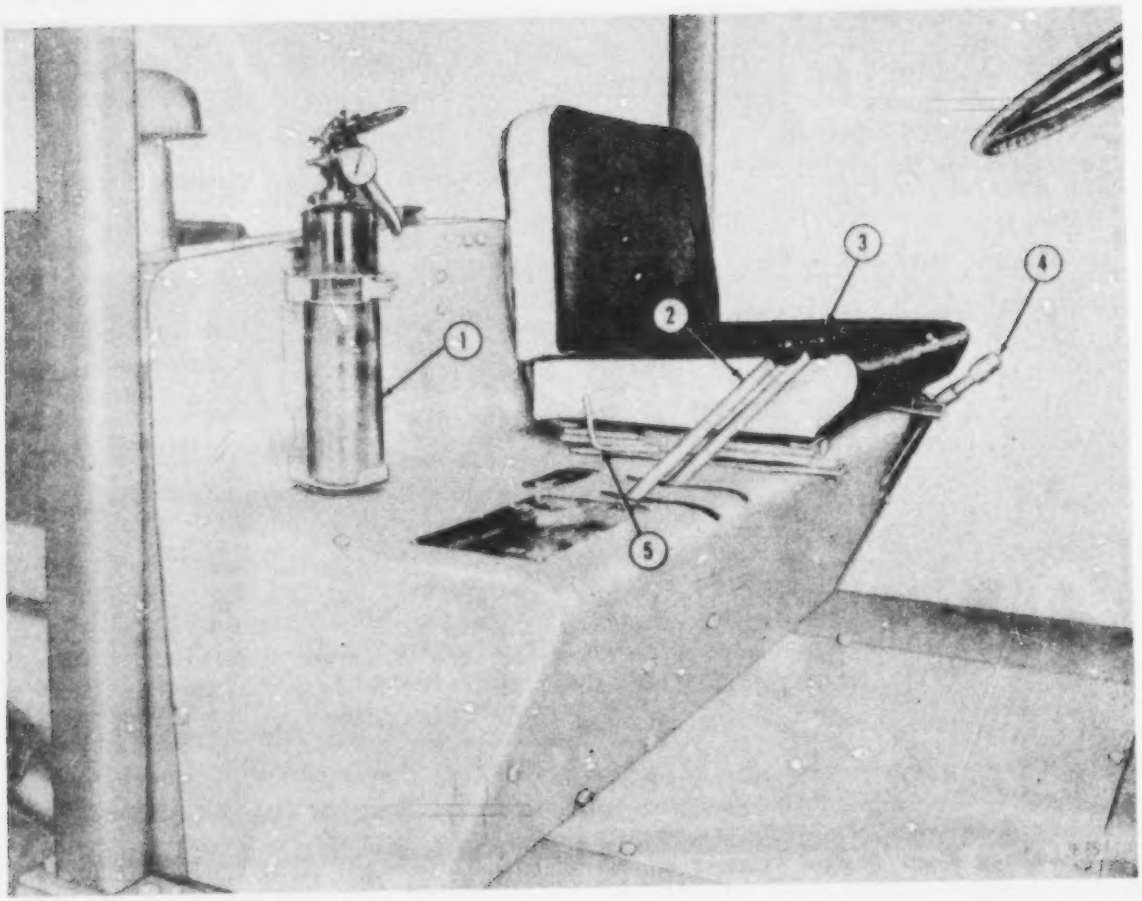
Figure 6. Controls located in front of the operator's seat.

12. Instruments

a. Hour Meter. The hour meter (8, fig. 8) is located to the extreme left on the instrument panel. This meter indicates the total number of hours that the engine has been in operation.

b. Fuel Indicator. The fuel indicator (7, fig. 8) is located on the instrument panel, at the left of the steering column. This indicator registers the amount of gasoline in the fuel tank. The indicator dial is marked E, 1/4, 1/2, 3/4, and F. These symbols indicate that the fuel tank is either empty, one-quarter full, one-half full, three-quarters full, or full. The starter and ignition switch must be in either the IGN or ACC positon to activate the fuel indicator.

c. Ammeter. The ammeter (6, fig. 8) is located on the instrument panel, at the right of the steering column. The ammeter indicates the amount of current flowing to or being



1 Extinguisher, fire
2 Lever, tilt control
3 Lever, lift control
4 Lever, parking brake
5 Adjuster assembly, seat

Figure 7. Fire extinguisher and controls located beside the operator's seat.

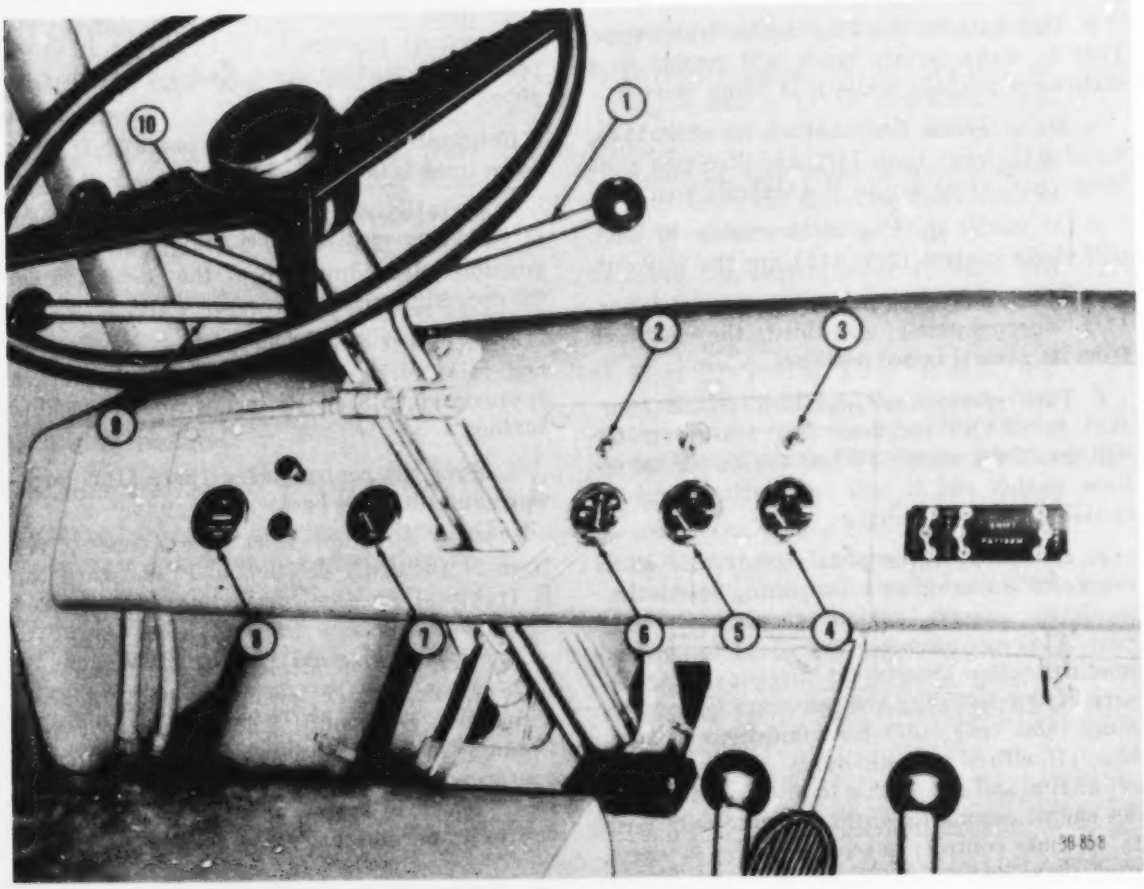
withdrawn from the battery. When the engine is started, the ammeter needle should move far to the right side of the dial and should fall back gradually to a position near the center or slightly to the charge (+) side of the dial. If the ammeter needle shows a constant discharge (–), stop the engine and report this trouble to the proper authority.

d. Engine Oil Pressure Gage. The engine oil pressure gage (5, fig. 8) is located on the instrument panel, at the right of the ammeter. This gage indicates the working pressure of the engine lubricating oil while the engine is in operation. The gage should indicate over 30 p.s.i. immediately after the engine is started. It should indicate 5 to 10 p.s.i. at idling speed and 25 to 30 p.s.i. at normal operating speed. If the pressure reading is low or excessively high, stop the engine and report this trouble to the proper authority.

e. Engine Temperature Indicator. The engine temperature indicator (4, fig. 8) is located on the instrument panel, at the right of the engine oil pressure gage. The indicator registers the temperature of the engine coolant in degrees Fahrenheit. During operation, the indicator should register 160° to 180° F. If the indicator fails to show any temperature gain after the engine has been operated for a reasonable length of time, or if the needle registers above 200° F., stop the engine and report the trouble to the proper authority.

f. Converter Oil Temperature Light. The converter oil temperature light (3, fig. 8) is located on the instrument panel, above the engine temperature indicator. This light will glow red when the oil in the transmission becomes excessively hot. If the light glows, stop the engine immediately and report the trouble to the proper authority.

g. Transmission Oil Pressure Light. The transmission oil pressure light (2, fig. 8) is located on the instrument panel, above the ammeter. This light will glow red when the oil pressure in the transmission is low. If the light glows, stop the engine immediately and report the trouble to the proper authority.



1 Lever, shift, range
2 Light, transmission oil pressure
3 Light, converter oil temperature
4 Indicator, engine temperature
5 Gage, engine oil pressure
6 Ammeter
7 Indicator, fuel
8 Meter, hour
9 Lever, shift, speed
10 Lever, shift, direction

Figure 8. Instruments and shift levers.

Section III. OPERATION UNDER USUAL CONDITIONS

13. General

A person selected to operate this forklift truck must be an experienced operator of materials handling equipment or heavy-duty equipment. In addition, each operator must undergo a thorough training program to acquaint him with the specific operating characteristics of this truck.

14. Starting the Truck

a. Perform the before-operation services listed on the operator's checklist (par. 27).

b. Pull back on parking brake lever (par. 11*d*) to make certain truck will remain in a stationary position while it is being started.

c. Make certain range shift lever (par. 11*k*), speed shift lever (par. 11*l*), and direction shift lever (par. 11*m*) are in N (neutral) positions.

d. At initial starting or if engine is cold, pull choke control (par. 11*b*) are the way out.

e. Press down on accelerator pedal (par. 11*f*) approximately one-third the distance from its normal raised position.

f. Turn starter and ignition switch (par. 11*a*) to START position. The starter motor will crank the engine. When engine starts, release switch and it will automatically return to IGN (ignition) position.

g. Hold accelerator pedal steady and allow engine to warm up at a fast idling speed. Immediately observe engine oil pressure gage (par. 12*d*) and ammeter (par. 12*c*) for normal readings. Also observe transmission oil pressure light (par. 12*g*) and converter oil temperature light (par. 12*f*) for indications of trouble. (If either or both lights glow red, shut off engine and report this to proper authority.) As engine begins to warm up, gradually push in on choke control; as soon as engine is warm, push choke control all the way in.

h. Warm engine until it will idle smoothly with the choke control pushed all the way in. Check for proper readings on ammeter (par. 12*c*), engine oil pressure gage (par. 12*d*), engine temperature indicator (par. 12*e*), and fuel indicator (par. 12*b*). Be sure hour meter (par. 12*a*) is operating properly.

i. Remove foot pressure from accelerator pedal. Report any malfunctions to the proper authority.

15. Driving the Truck

a. While operating the truck, perform the during-operation services listed on the operator's checklist (par. 27).

b. Move range shift lever (par. 11*k*) from N (neutral) position to H (high) or L (low) position, depending upon road surface or condition or working area.

Caution: **Do not shift the range shift lever when truck is in motion.**

c. Move speed shift lever (par. 11*l*) from N (neutral) position to 2 (high) or 1 (low) position, depending upon the condition of the operating surface.

d. Move lift control lever (par. 11*i*) to rear and raise forks to normal traveling position, approximately 8 to 10 inches above working surface.

e. Move tilt control lever (par. 11*j*) backward and tilt forks backward.

f. Move direction shift lever (par. 11*m*) from N (neutral) position to F (forward) or R (reverse) position, depending upon desired direction of travel.

g. Place foot on accelerator pedal, and release parking brake lever. Gradually depress accelerator pedal until truck begins to travel. Continue to depress accelerator pedal until safe operating speed is attained. If truck fails to move, shut off engine immediately and report this to proper authority.

16. Picking up the Load

a. Approach load squarely and halt truck. Move tilt control lever (par. 11*j*) forward and bring mast assembly to vertical position. If necessary, operate fork locating crank (par.

11*q*) and position forks to insure even distribution of load on forks. Raise or lower forks to proper height to pick up load.

b. Move truck forward until forks are positioned under load. Make certain forks are fully inserted in pallet or under load.

c. Apply parking brake to prevent truck from shifting position during lifting operation.

d. Move speed shift lever (par. 11*l*) and direction shift lever (par. 11*m*) to N (neutral) positions.

e. Move lift control lever (par. 11*i*) to rear and accelerate engine to raise load approximately 12 inches above ground level. Release lift control lever. Move tilt control lever backward to tilt forks backward. Release lever and decelerate engine.

f. Move speed shift lever (par. 11*l*) from N (neutral) position to 1 (low) position. Move direction shift lever (par. 11*m*) from N (neutral) position to proper position for desired direction of travel.

g. Release parking brake lever, depress accelerator pedal, and move load to desired location.

17. Depositing the Load

a. Depositing the Load on a Tiered Stack.

(1) Move lift control lever to rear and accelerate engine until load reaches desired height above tier.

(2) Drive truck forward until load is above its resting place. To slowly maneuver the truck forward while high engine speed is needed, use the inching pedal (par. 11*o*). Depress brake pedal to halt truck.

(3) Pull back on parking brake lever to apply parking brake.

(4) Move speed shift lever and direction shift lever to N (neutral) positions. Move tilt control lever forward and tilt forks forward until load is alined with tier.

(5) Move lift control lever forward and carefully lower load into position on tier. Continue to lower forks until they can be easily withdrawn from pallet.

(6) Move direction shift lever to R (reverse) position. Place speed shift lever in 1 (low) position. Release parking brake lever, and slowly back truck away from tiered stack until forks are clear.

(7) Move lift control lever forward to lower forks into normal traveling position, 8 to 10 inches above surface.

b. Depositing the Load in a Storage Area.

(1) Carefully drive up to position at which load is to be deposited. Depress brake pedal to halt truck.

(2) Apply parking brake, and move speed shift lever and direction shift lever to N (neutral) positions.

(3) Move tilt control lever forward and bring mast assembly to vertical position.

(4) Move lift control lever forward and carefully lower load to ground. Continue to lower forks until they can be easily withdrawn from under load.

(5) Move speed shift lever to 1 (low) position and place direction shift lever in R (reverse) position. Release parking brake lever, and slowly back truck away from deposited load.

(6) During these stacking operations, make any desired change in speed by shifting speed shift lever (par. 11*l*).

18. Stopping the Truck

a. Remove foot from accelerator pedal.

b. Depress brake pedal to stop travel of truck.

c. Apply parking brake. Move speed shift lever, direction shift lever, and range shift lever to their N (neutral) positions.

d. Move tilt control lever forward to bring mast to vertical position.

e. Move lift control lever forward to lower forks to ground.

f. Turn starter and ignition switch to OFF position to stop engine.

g. When operations have been completed, perform the after-operation services listed on the operator's checklist (par. 27).

19. Safety Precautions

a. Be alert for other workers to be sure they are not in the way of the load or the moving truck.

b. Be sure there is sufficient clearance overhead and on each side of the truck.

c. Be sure the forks are 8 to 10 inches above the ground during travel. Do not travel with the forks at a high position.

d. Avoid sudden starting and stopping of the truck. Reduce speed when making a turn.

e. Face in the direction of travel.

f. Know the rated capacity of the truck and do not overload it. Never pick up a load until you are certain it can be carried safely.

g. Make sure the load is steady before lifting it, and keep the load against the carriage backrest.

h. When transporting bulky loads, travel in reverse. Always descend ramps in reverse when carrying a load.

i. Be very careful when high-tiering.

j. Do not butt loads with the forks or with the rear of the truck.

k. Report any evidence of faulty truck performance.

Section IV. OPERATION OF EQUIPMENT USED IN CONJUNCTION WITH THE TRUCK

20. General

This section contains instructions for operating the portable fire extinguisher (1, fig. 7) that is supplied with the truck.

21. Operating the Extinguisher

a. Disconnect clamp that secures extinguisher to mounting bracket, swing clamp open, and remove extinguisher from truck.

b. Hold extinguisher by its carrying handle and pull pin that is secured to handle by a chain.

c. Lift nozzle on extinguisher until it forms an approximate right angle with the extinguisher.

d. Point nozzle at base of fire and depress discharge lever above carrying handle.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

Section I. SPECIAL TOOLS AND EQUIPMENT

22. Special Tools

There are no special tools necessary for the operation or first-echelon maintenance of this truck.

23. Equipment

The items of equipment supplied with this truck are listed in the basic issue item list (app. II).

Section II. LUBRICATION

24. General

The lubrication of this truck is the responsibility of the using organization and will be performed by second-echelon personnel.

25. Operator Responsibilities

The operator will be alert to detect signs of vehicle malfunctioning from lack of lubrication. He will report these conditions immediately to the proper authority.

Section III. PREVENTIVE MAINTENANCE SERVICES UNDER USUAL CONDITIONS

26. Preventive Maintenance

a. Preventive maintenance is defined as the systematic care, inspection, and servicing of equipment to maintain it in serviceable condition, to prevent breakdowns, and to assure maximum operational capability.

b. The services described in this section are those which must be performed by the operator at regular intervals. The operator may be assisted by the organization mechanic in performing these services.

27. Operator's Checklist

a. The operator's checklist prescribes both the daily and the weekly services which will be performed by the operator at the indicated intervals.

b. The intervals for performing these daily and weekly preventive maintenance services are as follows:

"B"—Before operation
"D"—During operation
"A"—After operation

c. The preventive maintenance services have been fully described on the checklist. Whenever additional information about the specific component is available in the operator's manual, the appropriate paragraph has been listed in the reference column of the checklist.

d. If the operator discovers a deficiency or shortcoming which he is not authorized to correct, he will report this condition immediately to the proper authority.

Operator's Checklist

Key:

B—Before-operation service
D—During-operation service
A—After-operation service

Item No.	Interval B	Interval D	Interval A	Procedure	Par. ref.
				DAILY SERVICES	
1				FUEL and COOLANT.	
	x		x	*a.* Check the level of the fuel in the fuel tank. The tank should be filled to the prescribed level.	
	x		x	*b.* Check the coolant level in the radiator. If the coolant level is more than one inch below neck, have coolant added to the radiator.	
2				BODY and ENGINE COMPARTMENT.	
	x		x	*a.* Inspect the body of the truck and the truck components for fuel, oil, or water leaks. Be certain to check under the truck and in the engine compartment.	
	x		x	*b.* Check the truck for broken or missing components and for visible damages of any nature. Report any of these conditions to the proper authority before moving the truck.	
	x		x	*c.* Be certain that the daily lubrication services listed on the lubrication order have been performed.	
	x		x	*d.* Clean the truck as necessary.	
3				TIRES.	
	x		x	*a.* Inspect the tires for unusual wear, cuts, and the presence of foreign objects.	
	x		x	*b.* Check the tires for proper inflation of 90 p.s.i. in both front (drive) and rear (steering) wheels.	
4				FORMS and SAFETY EQUIPMENT.	
	x		x	*a.* Be certain the necessary forms prescribed in TM 38–750 are on the truck.	
	x		x	*b.* Check the truck to be certain all safety equipment, such as fire extinguisher and the overhead guard, is mounted properly on the truck.	
5				LIGHTS.	
	x		x	Check all lights to be sure they operate properly.	
6				CONTROLS and INSTRUMENTS.	
	x	x		*a.* Start the engine and check the oil pressure gage. The gage should register over 30 p.s.i. immediately after the engine is started. It should register 5 to 10 p.s.i. at idling speed and 25 to 30 p.s.i. at normal operating speed,	12*d*
	x	x		*b.* Check the ammeter. It should indicate a high charge both when the engine is started and for a short period thereafter. At normal operating speeds, the ammeter should indicate slight positive charge.	12*c*
	x	x		*c.* Be certain the hour meter begins to operate as soon as the engine has been started.	12*a*
	x	x		*d.* Allow the engine to idle for at least 2 minutes, and check the engine temperature indicator. During the warmup period, the temperature reading should gradually rise to the normal operating temperature of 160° to 180° F.	12*e*

Operator's Checklist—Continued

Item No.	Interval B	Interval D	Interval A	Procedure	Par. ref.
	x			*e.* Check the fuel indicator to be sure it indicates a full tank of fuel.	12*b*
		x		*f.* Observe the converter oil temperature light and the transmission oil pressure light. If one or both of these lights glow red, stop the engine and report the trouble.	12*f*, 12*g*
	x			*g.* Check all controls for binding and other operational defects.	11
	x			*h.* Test the horn. It should be audible at a distance of 300 feet.	11*c*
7				INSTRUMENTS.	
		x		Check all instruments for any indication of malfunctioning.	12
8				BRAKES.	
		x		*a.* Check the service brake pedal to be sure it stops the truck within a reasonable distance and without side pull, chatter, or noise.	
	x*			*b.* Check the brake pedal free play. There should be at least 1/4 to 1/2 inch of free play or lash in pedal before starting of pressure stroke.	11*n*
		x		*c.* Observe the parking brake lever to be sure it holds the truck on a reasonable incline.	11*d*
9				INCHING CONTROL PEDAL.	
		x		*a.* Check the inching control pedal for proper operation.	11*o*
	x			*b.* Check the inching control pedal for proper free play of at least 1/4 inch.	
10				ENGINE.	
		x		Observe whether the engine has adequate power and acceleration and whether it operates without unusual noises, stalling, misfiring, overheating, and heavy exhaust smoke.	
11				TRANSMISSION SHIFT LEVERS and TRANSMISSION.	
		x		*a.* Check the operation of the shift levers for binding, looseness, and transmission engagement.	11
		x		*b.* Observe the operation of the transmission for slippage and for proper response.	
12				STEERING.	
		x		*a.* Note any tendency of the truck to wander, shimmy, or pull to one side while it is moving straight ahead.	
		x		*b.* Check the steering handwheel free play when the truck is moving straight ahead. The free play should not exceed 1 inch at center position.	11*e*
		x		*c.* Check for indications of binding or looseness when the steering hand wheel is rotated to either the extreme right or left positions.	
13				LIFT and TILT CONTROLS.	
		x		Observe both the lift and tilt controls to be certain they operate properly. Check to be sure the load does not creep when it is lifted or tilted.	11
14				UNUSUAL NOISES.	
		x		Listen for unusual noises that would indicate damaged, worn, or loose engine parts; a damaged or vibrating power train; or loose body components.	

Operator's Checklist—Continued

Item No.	Interval B	Interval D	Interval A	Procedure	Par. ref.
15				WHEEL HUBS, WHEEL CENTERS, TRANSMISSION CASE, TORQUE CONVERTER HOUSING, AND DIFFERENTIAL HOUSING.	
		x	x	At scheduled stops, inspect the wheel hubs, wheel centers, transmission case, torque converter housing, and differential housing for overheating. Also examine the engine compartment and the surface under the truck for signs of leaks.	
				WEEKLY SERVICES	
16				BELTS.	
			x	Inspect fan belt and generator belt for frayed condition, deterioration, and proper adjustment. The belts should deflect about one-half inch when finger pressure is applied midway between the pulleys.	
17				BATTERY.	
			x	*a.* Check the level of the electrolyte in the battery. The electrolyte should be one-half inch above the plates.	
			x	*b.* Inspect the battery case for cracks and leaks.	
			x	*c.* Inspect the battery terminals and cables for secure mounting and for deterioration.	
			x	*d.* Have the specific gravity of the electrolyte checked.	
			x	*e.* Clean the battery case as necessary.	
			x	*d.* Hve the specific gravity of the electrolyte checked.	
18				ANTIFREEZE (IN SEASON)	
			x	Have the protective value of the antifreeze checked.	

Section IV. PREVENTIVE MAINTENANCE SERVICES UNDER UNUSUAL CONDITIONS

28. General

When the truck is operated under unusual conditions, extra care must be taken to maintain the truck in good operating condition. Certain additional services must be performed, and some of the regular preventive maintenance services must be performed more often.

29. Operation in Extreme Heat

a. Cooling System.

(1) Check the fan belt more often to be sure it deflects properly. The belt should deflect one-half inch when finger pressure is applied midway between the pulleys.

(2) Check the coolant level more often, maintaining the level at the bottom of the fillercap neck. Be sure the radiator cap is secure.

(3) Keep external parts of the radiator clean and free of foreign matter to insure good air circulation.

(4) Have the cooling system flushed and cleaned frequently.

b. Electrical System. Check the battery electrolyte level more often, maintaining the level one-half inch above the plates. Have the specific gravity of the electrolyte checked more often.

30. Operation in Extreme Cold

a. Shelter. Store the truck in a heated building or in a shelter, if possible. If a shelter is not available, park the truck with the

front end facing into the wind and cover the truck with a paulin.

b. Cooling System. If the truck is to be at rest for an appreciable length of time and antifreeze is not available, have the cooling system drained when the temperature is likely to be 30° F. or lower. Attach a tag to the steering handwheel to warn personnel that the cooling system has been drained.

c. Electrical System.

(1) Have the specific gravity of the battery electrolyte checked more often.

(2) Do not add water to the battery unless the engine is to be operated immediately.

(3) Have the battery removed and stored in a warm place if the truck is not parked in a shelter.

31. Operation on Sandy Terrain

a. Take precautions to prevent sand and dust from entering the fuel system. Have a bag made of single-layer cloth and loosely tie it over the entire air cleaner during sandstorms. Have the air cleaner and fuel filter bowl cleaned daily.

b. Be sure to remove sand from axles, wheels, steering spindles, radiator, and brake assemblies.

c. Protect the lift and tilt mechanisms from sand. During sandstorms, cover exposed parts of the lift and tilt cylinder piston rods.

32. Operation in Tropical Areas

In tropical areas, corrosive action will take place almost immediately where paint is chipped or scratched from the truck. Inspect the truck often for signs of defective paint, and report this condition to the proper authority.

Section V. TROUBLESHOOTING

33. Definition

Troubleshooting is the process of locating and correcting malfunctions that may occur under normal operating conditions, and it is the responsibility of the using organization.

34. Operator Responsibilities

The operator will report to the proper authority any deficiencies noted before, during, or after operation. Report any strange noises or subnormal operation immediately and as accurately as possible.

CHAPTER 4

DEMOLITION OF TRUCK

35. Authority

The truck will be destroyed only if there is danger of capture and use by the aggressor, and only after the order is given by the unit commander. Destroy the same parts on all similar equipment to prevent salvage by the aggressor.

36. Methods

Warning: **Observe adequate safety precautions.**

a. Destruction by Hand.

(1) Smash the items listed below with a sledge, a hammer, or an ax.

(*a*) controls
(*b*) valves
(*c*) hydraulic cylinders
(*d*) hydraulic pump
(*e*) carburetor
(*f*) manifold
(*g*) generator
(*h*) distributor
(*i*) ignition coil
(*j*) spark plugs
(*k*) battery

(2) Smash the items listed below by using a heavy hammer to drive a pointed steel bar into the parts.

(*a*) engine
(*b*) drive axle and differential
(*c*) gear housing
(*d*) steering gear housing
(*e*) radiator
(*f*) oil and fuel tanks

(3) Destroy the items listed below by cutting them or ripping them out.

(*a*) wires
(*b*) cables
(*c*) lines

b. Destruction by Misuse.

(1) Drain the crankcase and radiator, disconnect the radiator fan, and run the engine at full throttle.

(2) Place sand, gravel, nuts, bolts, screws, or broken glass in the fuel tank.

(3) Pack cloths saturated with gasoline around the engine and inside the truck, and set the cloths afire.

(4) Remove the carburetor, the generator, and the distributor and bury them in the ground or throw them into a body of water.

APPENDIX I

REFERENCES

AR 320–5	Dictionary of United States Army Terms.
AR 320–50	Authorized Abbreviations and Brevity Codes.
AR 600–55	Motor Vehicle Driver Selection, Testing, and Licensing.
DA Pam 108–1	Index of Army Motion Pictures, Film Strips, Slides, and Phono-Recordings.
DA Pam 310–1	Military Publications: Index of Administrative Publications.
DA Pam 310–2	Military Publications: Index of Blank Forms.
DA Pam 310–3	Military Publications: Index of Training Publications.
DA Pam 310–4	Military Publications: Index of Technical Manuals, Technical Bulletins, Supply Bulletins, Lubrication Orders, and Modification Work Orders.
FM 21–5	Military Training.
FM 21–6	Techniques of Military Instruction.
FM 21–30	Military Symbols.
TM 21–300	Driver Selection and Training (Wheeled Vehicles).
TM 38–750	The Army Equipment Record System and Procedures.

APPENDIX II

BASIC ISSUE ITEM

Section I. INTRODUCTION

1. Scope

This appendix lists the equipment and publication issued with this truck.

2. Explanation of Columns

a. Technical Service Code. The following code symbols indicate the supplying technical service.

5—Corps of Engineers
9—Ordnance Corps
10—Quartermaster Corps
11—Signal Corps
12—Adjutant General's Corps

b. Source, Maintenance, and Recoverability Code.

(1) *Source code.* The following code symbols indicate the selection status and the source of supply for each item.

"P"—applied to repair parts which are high mortality parts; procured by technical services; stocked in and supplied from the technical service depot system; and authorized for use at the indicated maintenance echelon.

"X2"—Applied to repair parts which are not stocked. The indicated maintenance echelon requiring such repair parts will attempt to obtain them from salvage; if not obtainable from salvage, such repair parts will be requisitioned with supporting justification through normal supply channels.

(2) *Maintenance code.* The following code symbol indicates the lowest maintenance echelon authorized to receive these items.

"O"—Organizational (first-echelon) maintenance.

(3) *Recoverability code.* If an item has been designated as recoverable, it will be so noted in this column.

c. Federal Stock Number. This column lists the 11-digit Federal stock number for requisitioning and stockage purposes. When necessary, the manufacturer's code and part numbers will be listed in the description column (*d* below).

d. Description. This column lists the items by the nomenclature that will be used for requisitioning purposes. When necessary, it also lists the manufacturer's code and parts numbers. The following code number is used in this list:

12603—Clark Equipment Company.

e. Unit of Issue. This column lists the smallest quantity in which the item will be issued.

f. Expendability. These items will be considered expendable unless otherwise noted in this column.

g. Quantity Authorized. The number reflected in this column indicates the quantity of the item authorized for issue with the equipment.

h. Illustrations.

(1) *Figure number.* This column contains the number of the figure that illustrates the item.

(2) *Item number.* This column contains the number that identifies the item on the illustration.

Section II. FUNCTIONAL PARTS LIST

Source, maintenance, and recoverability code				Federal stock No.	Description	Unit of issue	Expendability	Quantity authorized	Illustrations	
Technical service	Source	Maintenance	Recoverability						Figure No.	Item No.
					EQUIPMENT					
11	P	O	--	6140–264–5446	BATTERY, storage, 12-volt	ea		1		
9	P	O	--	6810–249–9354	ACID, sulfuric, electrolyte dilute, specific gravity 1.280, 1-gallon container.	ea		2		
5	P	O	--	4210–555–8837	EXTINGUISHER, fire	ea		1	7	1
10	X2	O	--		FORK ASSEMBLY (12603) 323205	ea		2	1	4
					PUBLICATIONS					
12					TM 10–3930–225–10 (Operator's Manual)	ea		1		
					REPAIR PARTS					
					None authorized for first-echelon maintenance.					
					SPECIAL TOOLS					
					None authorized for first-echelon maintenance.					

By Order of the Secretary of the Army:

EARLE G. WHEELER,
General, United States Army,
Chief of Staff.

fficial:

J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

DCSLOG (1)
USASA (1)
CNGB (1)
DASA (2)
CARROTC (1)
CofEngrs (2)
TSG (2)
CSigO (2)
CofT (2)
USACONARC (2)
ARADCOM (2)
ARADCOM Rgn (2)
LOGCOMD (3)
MDW (1)
Armies (5)
Corps (2)
Instl (2)
QMRECOMD (2)
Svc Colleges (2)
USAQMS (100)
USAQMTC (1)
GENDEP (OS) (4)
Army Dep (2)
QM Sec, GENDEP (4)
QM Dep (OS) (4)
Dep (OS) (2)
QMPA (2)
Trans Tml Comd (2)
Army Tml (2)
Arsenals (2)
QM Fld Maint Shops (2)
Units org under fol TOE:
10-22 (2)
10-127 (2)
10-187 (2)
10-347 (2)
10-348 (2)
10-367 (2)
10-377 (2)
10-407 (2)
10-447 (2)
10-448 (2)
10-467 (2)
10-500 (AD,BQ,) (2)
10-500 (EA,EE,EG,HV) (2)
10-521 (2)
10-536 (2)
29-5 (2)
33-105 (2)
33-106 (2)
55-117 (2)

NG: None.

USAR: Units—same as Active Army except allowance is one copy to each unit.

For explanation of abbreviations used, see AR 320-50.

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